

afforded. The temperature was then observed with five thermometers:

Thermometers 1 and 2 were "nitrogen filled" thermometers graduated in Centigrade degrees ranging from  $-29^{\circ}$  to  $+360^{\circ}$  in  $1^{\circ}$  intervals. These are the ordinary high-grade laboratory thermometers.

Thermometer 3 was a small "Anchutzh normal" thermometer reading from  $-25^{\circ}$  to  $+50^{\circ}$  in  $1/5^{\circ}$  intervals. This is one of the most accurate types of chemical thermometers obtainable.

Thermometer 4 was a large thermometer of the same type as No. 3, but reading from  $-19^{\circ}$  to  $+360^{\circ}$  in  $1/5^{\circ}$  intervals.

Thermometer 5 was an ordinary Six's maximum and minimum thermometer graduated in degrees Fahrenheit, each graduation representing  $2^{\circ}$ .

Thermometer 6 was a standard Weather Bureau type minimum thermometer reading from  $-35^{\circ}$  to  $+115^{\circ}$  F. in  $1^{\circ}$  ranges. This is probably one of the most accurate types of Fahrenheit thermometers obtainable.

Thermometer No. 6 was spirit filled. No. 5 contained a combination of spirit and mercury and all of the others were mercury filled.

Thermometers 1, 2 and 3 gave the same temperature for the ice and salt mixture, *i. e.*,  $-21^{\circ}$  C. which is the equivalent of  $5.8^{\circ}$  below zero Fahrenheit. Thermometer 4 was graduated only to  $-19^{\circ}$  C. and the mercury was some distance below the bottom of the scale. By interpolation a reading of  $-20^{\circ}$  to  $-21^{\circ}$  C. was made. Thermometer 5 gave a minimum of  $-4^{\circ}$  F. while the Weather Bureau thermometer (No. 6) gave a reading of  $-5^{\circ}$  F.

Previous to this experiment I had filled a wooden box holding perhaps 30 pounds of ice with a freezing mixture in the evening and placed it in an empty ice box to conserve ice. In the morning I noted a temperature of  $-19^{\circ}$  C. ( $-2.2^{\circ}$  F.).

From these experiments I am convinced that  $0^{\circ}$  F. is not "the lowest temperature obtainable with ice and salt." Just what the "lowest temperature" is I am unable to state, having failed to secure a greater lowering than  $-21^{\circ}$  C. Theoretically the lowest tem-

perature should be the cryohydric point ( $-22^{\circ}$  to  $-23^{\circ}$  C.) where the cryohydrate, ice and salt containing 23.6 per cent. of NaCl, separates.

ROSS AIKEN-GORTNER

#### THE AMERICAN PETROLEUM SOCIETY

THE American Petroleum Society was organized September 10 at the U. S. Bureau of Mines, Pittsburgh, Pa. This organization is the result of an effort of the bureau for the past seven years to bring together the men interested in the petroleum industry.

Invitations were sent out in July to the secretaries of twenty-four of the great national societies of the United States, inviting them to be present and to cooperate in this organization. Eighteen of these societies responded at a meeting on August 1 at the Bureau of Mines. A similar invitation was sent out in August to eight additional societies, making a total of thirty-two societies that were invited to attend the September conference. A large number of these were represented at the meeting on September 10, when the final organization was completed.

This society will concern itself with the study of all phases of natural gases and petroleum, including the origin, statistics, conservation, drilling methods, production, transportation, storage, refining and specifications for refined products.

When it is considered that each year, within the United States alone, there are produced crude petroleum and natural gases having a value in excess of \$200,000,000, and that no society has ever been organized in America for their comprehensive study it is reasonable to suppose that the future of this society is assured. There is to-day a tremendous waste of natural gases which, by proper methods of drilling, could be prevented. Also, there is waste of crude oil due to improper methods of production and handling. The necessity for a critical study of petroleum and gases by the members of such a society is evident.

At the meeting on September 10 at the Bureau of Mines the constitution and by-laws were adopted, and officers were elected as follows:

*President*, C. D. Chamberlin, National Petroleum Association, Cleveland, Ohio; *Vice-president*, R. Galbreath, Independent Oil and Gas Producers' Association of Oklahoma, Tulsa, Okla.; *Secretary*, Irving C. Allen, U. S. Bureau of Mines, Pittsburgh, Pa.; *Treasurer*, Warren C. Platt, Independent Petroleum Marketers' Association of the United States, Cleveland, Ohio; *Acting Past President*, Frank B. Fretter, Western Petroleum Refiners' Association, Coffeyville, Kansas. In addition to the foregoing these members were also elected to serve on the executive committee: Ralph Arnold, Geological Society of America, Los Angeles, Cal.; C. F. Clarkson, Society of Automobile Engineers, New York City; G. M. Swindell, Chamber of Mines and Oil, Los Angeles, Cal.; Edmund O'Neill, American Chemical Society, University of California, Berkeley, Cal.; E. B. Rich, Gasoline Producers' Association, Parkersburg, W. Va.; George H. Taber, American Society for Testing Materials, Pittsburgh, Pa.

The first annual meeting will be held at New Orleans, La., October 16 and 17, 1914, and the second annual meeting will be held at the Panama-Pacific International Exposition in San Francisco, October 25 to 30, 1915. At the 1915 meeting it is anticipated that all of the petroleum societies in the country will meet in one great congress where many things of interest and of value will be presented.

An official invitation has been sent from the president of the Exposition at San Francisco to the president of the International Petroleum Commission, Karlsruhe, Germany, to hold the 1915 meeting of the International Petroleum Commission in San Francisco. This meeting will be part of the great meeting of the petroleum industries where the foremost petroleum technologists and scientists of the world will congregate. Plans are already being formulated for this great 1915 meeting.

IRVING C. ALLEN

BUREAU OF MINES

#### THE AMERICAN BISON SOCIETY

At the annual meeting of the American Bison Society, held in New York on January 8, 1914,

important action was taken relative to extending the work of the society by the passage of the following resolution, proposed by Professor Henry Fairfield Osborn and seconded by Dr. Wm. T. Hornaday:

*Resolved*, That the protection and propagation of the prong horn antelope be immediately undertaken by the American Bison Society in connection with its work for the buffalo, and that the board of managers be asked to request the president and officers to formulate and execute a plan whereby this purpose may be carried out.

At the annual meeting of the board of managers, after a brief discussion of this matter, the president and executive committee were instructed to take such action as they might deem best as soon as possible.

President Hooper, in his annual report, gave an interesting summary of the work already accomplished by the society, and pointed out several directions in which effort should be directed during the coming year. He called attention to the fact that when the society was organized some eight years ago only 1,100 pure-blooded bison were known to exist in North America, while on January 1, 1913, 3,453 animals were listed in the census compiled by the society, an increase of over 300 per cent. During the past year the Wind Cave National Game Preserve has been established at the instance of this society, and has been stocked with fourteen bison presented by the New York Zoological Society from its herd in the Bronx Park.

The work awaiting the society during the coming year was listed by President Hooper under three heads: (1) The establishment of a herd in Sully's Hill National Park, North Dakota, (2) the establishment of a state herd in New York state or elsewhere, (3) encouragement of the preservation of the prong horn antelope, and possibly of other species of big game animals.

Dr. T. S. Palmer, of the U. S. Biological Survey, called attention to the possibility of establishing a state herd in West Virginia on the preserve of the Allegheny Sportsmen's Association. He also stated that the Montana, Wind Cave, Niobrara and Wichita ranges were all well suited to antelope.

It was felt that the society could well take pride in its recent achievements, but that its efforts must not in any way be relaxed during the coming year.

WILLIAM P. WHARTON,  
Secretary